

REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1-3 and 5-7 are presently pending in this case. Claims 1, 3, 5, 6, and 7 are amended by the present amendment. As amended Claims 1, 3, 5, 6, and 7 are supported by the original disclosure,¹ no new matter is added.

In the outstanding Official Action, Claim 6 was objected to; Claims 1-3 and 5-7 were rejected under 35 U.S.C. §112, second paragraph; Claims 1-3 and 5-7 were rejected under 35 U.S.C. §103(a) as unpatentable over Buckler et al. (U.S. Patent No. 5,030,984, hereinafter “Buckler”) in view of Kanbara (U.S. Patent No. 5,689,737).

With regard to the objection to Claim 6, Claim 6 is amended to correct the noted informality. Accordingly, the objection to Claim 6 is overcome.

With regard to the rejection of Claims 1-3 and 5-7 under 35 U.S.C. §112, second paragraph, Claims 1, 3, 5, and 6 are amended to recite “a total number of pixels without said movement blurring occurring.” Further, Claims 2 and 7 are amended to recite “the second equation to provide the difference between the pixel value of adjacent pixels for which said movement blurring is not occurring,” which is supported at least by the specification at paragraph 1317 of the publication.

With regard to the rejection of Claims 1-3 and 5-7 as unpatentable over Buckler in view of Kanbara, that rejection is respectfully traversed.

Amended Claim 1 recites in part:

normal equation generating means for generating a normal equation using a first equation wherein the pixel value of each of the pixels within said processing region is substituted into a model generated by said model generating means, and a second equation which constrains the relation between each of the pixels without said movement blurring

¹See, e.g., the publication of the specification at paragraphs 1313 and 1317.

occurring, ***said first equation providing a relationship between the pixel values without said movement blurring occurring and the pixel values of the image data***, said normal equation including a number of equations from the first equation and the second equation which is greater than or equal to a total number of pixels without said movement blurring occurring.

Buckler describes an apparatus for minimizing the effects of motion in the recording of an image including functional block 42, which adjusts light level based on motion.² The outstanding Office Action cited the processing described at column 6 of Buckler as “normal equation generating means,” the equation at column 6, line 63 of Buckler as “a first equation,” and the equation at column 6, line 29 of Buckler as “a second equation.”³ However, the equation at column 6, line 63 of Buckler provides a relationship between the time derivative of a smoothed image intensity function and the spatial derivative of the smoothed image intensity function. Thus, regardless of whether the smoothed image intensity function is considered “image data” or “pixel values without said movement blurring occurring,” the equation at column 6, line 63 of Buckler does not provide a relationship between “image data” ***and*** “pixel values without said movement blurring occurring.” In contrast, the claimed invention generates a first equation providing a relationship between ***the pixel values without said movement blurring occurring and the pixel values of the image data***. Thus, Buckler does not teach or suggest “normal equation generating means for generating a normal equation using a first equation” as defined in amended Claim 1. Further, it is respectfully submitted that Kanbara does not cure these deficiencies of Buckler.

Consequently, amended Claim 1 (and Claim 2 dependent therefrom) is patentable over Buckler in view of Kanbara.

²See Buckler, Figure 4, column 5, lines 48-49, and column 6, line 17 to column 7, line 35.

³See the outstanding Office Action at page 7, lines 3-15.

Amended Claims 3 and 5 recite in part:

generating a normal equation using a first equation wherein the pixel value of each of the pixels within said processing region is substituted into a model generated by said modeling, and a second equation which constrains the relation between each of the pixels without said movement blurring occurring, ***said first equation providing a relationship between the pixel values without said movement blurring occurring and the pixel values of the image data***, said normal equation including a number of equations from the first equation and the second equation which is greater than or equal to a total number of pixels without said movement blurring occurring.

As noted above, the equation at column 6, line 63 of Buckler provides a relationship between the time derivative of a smoothed image intensity function and the spatial derivative of the smoothed image intensity function. Thus, regardless of whether the smoothed image intensity function is considered “image data” or “pixel values without said movement blurring occurring,” the equation at column 6, line 63 of Buckler does not provide a relationship between “image data” ***and*** “pixel values without said movement blurring occurring.” Thus, Buckler does not teach or suggest “generating a normal equation” as recited in Claims 3 and 5. Further, it is respectfully submitted that Kanbara does not teach or suggest this feature either. Consequently, Claims 3 and 5 are patentable over Buckler in view of Kanbara.

Amended Claim 6 recites in part:

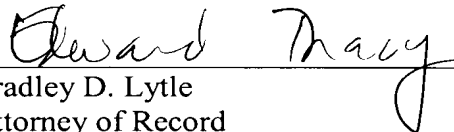
a normal equation generating unit configured to generate a normal equation using a first equation wherein the pixel value of each of the pixels within said processing region is substituted into a model generated by said model generating unit, and a second equation which constrains the relation between each of the pixels without said movement blurring occurring, ***said first equation providing a relationship between the pixel values without said movement blurring occurring and the pixel values of the image data***, said normal equation including a number of equations from the first equation and the second equation which is greater than or equal to a number of pixels without said movement blurring occurring.

However, as noted above, the equation at column 6, line 63 of Buckler provides a relationship between the time derivative of a smoothed image intensity function and the spatial derivative of the smoothed image intensity function. Thus, regardless of whether the smoothed image intensity function is considered “image data” or “pixel values without said movement blurring occurring,” the equation at column 6, line 63 of Buckler does not provide a relationship between “image data” **and** “pixel values without said movement blurring occurring.” Thus, Buckler does not teach or suggest “a normal equation generating unit” as recited in amended Claim 6. Further, it is respectfully submitted that Kanbara does not cure these deficiencies of Buckler. Consequently, amended Claim 6 (and Claim 7 dependent therefrom) is also patentable over Buckler in view of Kanbara.

Accordingly, the pending claims are believed to be in condition for formal allowance. An early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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